

CLAIMS

1. An engine block mold, including at least one barrel slab core, the or each barrel slab core including a slab portion, and at least one barrel portion adapted to receive a cylinder liner, and at least one cylinder bore liner, wherein the barrel
5 portion of the or each barrel slab core has an outer diametral taper along at least a portion of its length, and the or each liner has a substantially matching internal diametral taper along at least a portion of its length.
2. The engine block mold as in the immediately preceding claim further characterized in that the taper of the barrel portion, extends from the slab portion
10 end of the barrel portion toward the distal ends of the barrel portion.
3. The engine block mold as in any one of the preceding claims further characterized in that the taper of the cylinder liner, and the taper of the barrel portion of the core, is applied along the entire length of each.
4. A method of assembling an engine block mold including the steps of:
15 preparing the cylinder liners,
providing at least one barrel slab core, the or each barrel slab core including a slab portion, and at least one barrel portion adapted to receive a cylinder liner, the or each barrel having an outer diametral taper along at least a portion of its length; and
disposing upon the or each barrel portion, via a first manipulation means, a cylinder
20 liner that has a substantially matching internal diametral taper along at least a portion of its length;
using a second manipulation means to insert the or each slab barrel core and the or each liner disposed upon it, into a substantially completed mold casing.
5. The method as in the immediately preceding claim further characterized in
25 that the step of preparing the cylinder liner includes cleaning and preheating the cylinder liners.
6. The method as in any one of the preceding method claims, further characterised in that the cleaning and heating of the cylinder liners is achieved simultaneously using a fluidized sand bed.

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7. The method as in any one of the preceding method claims, further characterised in that the manipulation means are robots.
8. A method of casting an engine block including the steps of:
assembling an engine block mold using the method as described in any of the
5 method claims 4 to 7;
pouring molten metal into the mold to cast an engine block;
removing the as cast engine block from the mold; and
machining the cylinder liners so that they have a substantially constant internal diameter along their length.
- 10 9. An engine block mold substantially as described in the specification, with reference to, and as illustrated in Figures 1 and 2 of the accompanying illustrations.
10. A method of assembling an engine block mold, substantially as described in the specification, with reference to, and as illustrated in Figures 1 and 2 of the accompanying illustrations.
- 15 11. A method of casting an engine block, substantially as described in the specification, with reference to, and as illustrated in Figures 1 and 2 of the accompanying illustrations.